

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Charles F. Butler

Serial No.: 10/039,303

Art Unit: 3764

Filed: January 2, 2002

Examiner: Justine Romang Yu

For: SIMULATED WAVE MASSAGE

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

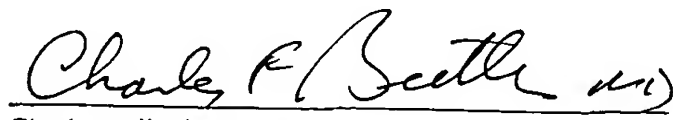
**RULE 132 DECLARATION**

1. I am the inventor of the above subject application and my Curriculum Vitae is attached hereto
2. To the best of my knowledge and belief I am the first to provide a method of applying acoustical vibrations to the human body using but a single transducer which in response to a signal produces a vibration in the body and thereafter bearing the frequency of the signal by a continuous or scanning movement to move the location of the vibration from one body part to another body part.
4. I have been provided and have reviewed U.S. Patent 5,101,810, in which at least two loud speakers or transducers are utilized to produce a vibratory effect accompanied by music in a particular part of the body. A particular signal frequency is used for a specific body part for a specific length of time. While the frequency used in patent 5,101,810 can be varied, it is done so in separate increments. This patent teaches or instructs in the usage of a specific frequency for a specific body part used for a specific length of time.
5. I have also been provided a copy of U.S. Patent 5,113,852 and find that it is directed to what the inventor here calls muscle fatigue. The inventor here indicates in column I on line 57 that

this problem of muscle fatigue exists whether one use a constant frequency or a varying frequency. The inventor of this patent did not realize that beneficial therapeutic results can exist by the use of varying the frequency. In this patent at least two transducers are needed. In this patent the vibratory effect is moved from one speaker to another by inducing a signal phase difference at the respective transducers.

6. In considering patents 5,101,810 and 5,113,852, neither patent suggests to the method of producing a wave-like or moving vibration location in the body by varying the frequency of a signal by scanning. The inventor in patent 5,101,810 utilized discrete frequencies without any continuous movement or scanning while the inventor in patent 5,113,852 utilized a phase off-set for the signal to produce a wave-like vibration available only through at least two transducers.
7. In summary, my invention of actuating a wave generation device to cause a transducer to provide a signal producing a vibration in the body and thereafter varying the frequency of the signal by scanning to move the location of the vibration from one body part to another by the minimum of one transducer is not obvious from the prior art as it is known to me.

I hereby declare that all statements made here are of my own knowledge are true and are all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 118 U.S.C. 1001.

  
Charles F. Butler, M.D.

Date: May 14, 2003

## CURRICULUM VITAE

NAME:

**CHARLES FRANCIS BUTLER**

ADDRESS AND TELEPHONE:

2130 South Park Street  
Kalamazoo, Michigan 49001  
(616) 388-6000

DATE AND PLACE OF BIRTH:

July 24, 1943  
New York, New York

CURRENT PROFESSIONAL ACTIVITY: **Physioacoustics**

PAST PROFESSIONAL ACTIVITY:

**Boards of Directors**

Institute for Music and Neurologic Function  
Beth Abraham Health Services  
Bronx, New York  
November 1999 to present

Music Therapy and Heart Transplant  
Research Board  
Temple University  
Philadelphia, Pennsylvania  
February 2000 to present.

**Director of Cardiac Surgery**

Bronson Methodist Hospital  
252 East Lovell  
Kalamazoo, Michigan 49007  
July 1986 to July 1995

**President, Founder**

Midwest Cardiothoracic Surgery Center  
November 1982 to present

**CEO, President, Founding Member**

Healthcare Midwest (Group of 42  
Physicians)  
Kalamazoo, Michigan  
1993 -1995

**Kalamazoo Cardio-Thoracic Surgery**

Group Practice  
Kalamazoo, Michigan  
December 1981 to October

**Director of Cardiac Surgery**

St. Francis Hospital Medical Center  
Monroe, Louisiana  
July 1979 to November 1981

**MARITAL STATUS AND DEPENDENTS:**

Married: Penelope Johnson  
Children: Charles, Erin, and Brendan

**MILITARY SERVICE:**

United States Air Force / Air National Guard  
Major Flight Surgeon  
March 1972 to April 1980

**EDUCATION:**

Undergraduate

**St. Joseph's College**

New York, New York  
(Philosophy, English, Literature, and  
Classics)  
B.A. Summa Cum Laude, 1965

Graduate

**Gregorian University**

Rome, Italy  
Fellow, 1965 to 1966

Medical Undergraduate

**University of Alabama**

Tuscaloosa, Alabama  
Pre-Medical 1966 to 1967

**Medical College of Alabama**

Birmingham, Alabama, 1967 to 1971  
M.D. 6/5/71  
Superior Scholarship Award  
National Medical Honor Society

Postgraduate

**University of Alabama Graduate School**

Birmingham, Alabama  
Fellow in Physiology/Biophysics 1969 to  
1971

Ph.D. Candidate in Physiology/Biophysics  
(Proton Transport)

**University of Alabama Graduate School**

Birmingham, Alabama  
Ph.D. in Biophysics 8/25/74

## **POSTGRADUATE TRAINING:**

### **Harvard University**

Peter Brent Brigham Hospital  
Boston, Massachusetts  
Internship/Residency in General Surgery  
June 1971 to June 1974

### **Mayo Clinic**

Rochester, Minnesota  
General Surgery Fellowship  
July 1974 to June 1977

### **USAF School of Aerospace Medicine**

San Antonio, Texas  
Primary Certification / Aerospace Medicine  
Certification Date: 3/11/72

### **University of Utah**

Salt Lake City, Utah  
Fellow Thoracic Surgery  
July 1977 to June 1979

## **BOARD CERTIFICATION:**

### **American Board of Surgery**

2/27/78 23285

### **American Board of Surgery**

Recertified 10/23/87 #23285

### **American Board of Thoracic Surgery**

5/23/80 3547

### **American Board of Thoracic Surgery**

Recertified 11/15/88 #3547

### **American Board of Thoracic Surgery**

Recertified 12/31/2000 #3547

## **ACADEMIC APPOINTMENTS:**

### **Harvard University**

Boston, Massachusetts  
Clinical Instructor in Surgery  
1972 to 1973

### **University of Alabama in Birmingham**

Birmingham, Alabama  
Instructor in Physiology and Biophysics  
1969 to 1971, 1973 to 1974

**Mayo Clinic**  
Rochester, Minnesota  
Clinical Instructor in Surgery  
1974 to 1976

**Mayo Clinic**  
Rochester, Minnesota  
Associate Surgical Staff  
1976 to 1977

**Louisiana State University**  
Shreveport, Louisiana  
Clinical Assistant Professor of Surgery  
1979 to 1980

**Michigan State University**  
College of Medicine  
Lansing, Michigan  
Assistant Clinical Professor of Surgery  
1981 to present

CURRENT MEDICAL LICENSURE: Michigan 12-02-81 44368

PAST MEDICAL LICENSURE:

Louisiana	5-10-79	4484R
Utah	7-1-77	5604
Minnesota	7-1-74	0138642
Massachusetts	4-18-73	35392
Alabama	6-28-73	6278

NATIONAL HONOR SOCIETY MEMBERSHIPS:

1970                      **Alpha Omega Alpha**  
                                    (National Medical Honor Society)

1971                      **Sigma Chi**  
                                    (National Research Honor Society)

## **SOCIETY MEMBERSHIPS**

**American Heart Association 1986 to present**  
**Past President (1988)**

**Harvard Alumni 1973**

**Mayo Alumni Association 1977**

**UAB School of Medicine Alumni Association 1971**

**Rotary International 1980**

**American College of Chest Physicians,**  
Fellow, 1981 to present  
Council on Critical Care, 1983 to present

**American College of Surgery,**  
Fellow, 1983 to present

**International College of Surgeons,**  
Fellow, 1982 to present  
Vice-Regent (1984 to 1991)

**American College of Cardiology,**  
Fellow, 1984 to present

**Society of Thoracic Surgeons,**  
Member 1983 to present

**American Medical Association,**  
Member 1979 to present

**Michigan Society of Thoracic and C.V. Surgeons,**  
Member 1988 to present

**Michigan State Medical Society 1982 to present**

**Michigan Society of Thoracic Surgeons 1983 to present**

**Bronson Methodist Hospital,**  
Director 1985-1995  
Staff Member, 1981 to present

## PUBLICATIONS

Can the Osmotic Theory Still Be Used to Explain Net Uphill Water Transport Occurring in the Resting Stomach Bathed with Isotonic HCL? Biophysical J. 9:A264, 1969.

A Model to Explain Uphill Water Transport in the Mammalian Stomach. J. Theor. Biol., 27:433, 1970.

Effect of Adenine Compounds on H<sup>+</sup> Secretion of Histamine-Stimulated in Vitro Gastric Mucosa of Rana Pipiens. The Physiologist. 14:222, 1971.

Conductance Transport Properties and Mode of Action of Barium on the Submucosal Facial Membrane of the Frog Gastric Mucosa: A Doctoral Dissertation. 142 ppg., 1974.

Vaginal Hysterectomy for Carcinoma of the Endometrium: Forty Years Experience at the Mayo Clinic. Endometrial Carcinoma and Its Treatment. Charles C. Thomas, Publisher, 1977.

Inhibition of H<sup>+</sup> Secretion in the Frog Gastric Mucosa by ATP and Related Compounds. J. Physiol.

Chest Trauma. Critical Care Update Bronson Methodist Hospital. Volume 3, No. 2, March-April, 1985.

Traumatic Left Ventricular False Aneurysm with Significant Regurgitation from Left Ventricular Outflow Tract to Left Atrium: Delineation by Two-Dimensional and Color Flow Doppler Echo Cardiography: Charles P. Taliercio, M.D., Jae K. Oh, M.D., Mike H. Summerer, M.D., Charles F. Butler, M.D. J. Am. Soc. ECHO, 1:354-8, 1988.

Extended Extracorporeal Support Utilizing Minimal Heparin and Iloprost (ZK36374). William B. Pelley, CCP; Donald D. Taylor, CCCP, and Charles F. Butler, M.D.: Proceedings 26th International Conference American Society of Extra-Corporeal Technology, William Pelley, Presenter: Anaheim, CA., March 11-14, 1988.

A Technique for Rapid Localization and Resection of Pharyngoesophageal (Zenkers) Diverticular Using Intraoperative Endoscopy. John Corey, M.D. and Charles F. Butler, M.D.: Paper Presented by Dr. John Corey; Department of Surgery Resident Research Forum; Michigan State University, March 16, 1988.

"Dignity or Despair: Health Care in the United States." Charles F. Butler and James W. Addicott. Financial Arena. San Jose, CA. 1989.

"Can You Afford to Grow Old?" James W. Addicott and Charles F. Butler. Probus



Publishing Company, Chicago, IL., 1992.

Physioacoustic Therapy with Cardiac Surgery Patients, Music Vibration, Tony Wigram and Cheryl Dileo (Editors), Jeffrey Books, 538 Covered Bridge Rd., Cherry Hill, N.J. 08034, 1997

Physioacoustics: The Sound Treatment of Pain and Stress, Music Therapy For Stress And Pain Management: A Multi-Disciplinary Exploration, Ed. Brian Wilson, Institute presented as part of the Inaugural American Music Therapy Association Conference, Cleveland, 1998.

Physioacoustic Therapy With Post-Surgical and Critically Ill Patients, Music Therapy and Medicine: Theoretical and Clinical Applications, The American Music Therapy Association, Silver Spring, MD (1999).

The Curative Powers of Low Frequency Sound, Light and Sound 2000, Spectrum International, Chicago, IL, 2000

Physioacoustics, The Healing Power of The Drum pps.134-139, Robert Lawrence Friedman, White Cliffs Media, Reno, NV, 2000

## RECENT RESEARCH PARTICIPATION:

Research Consultant, Upjohn Corporation, 1994.

Clinical Investigator, Hill-Rom Corporation, 1994.

Clinical Investigator, Next Wave Corporation, 1990-1994.

The Use of Physioacoustic Therapy Following Open Heart Surgery, Next Wave Corporation; Bronson Methodist Hospital; Kalamazoo, Michigan 1994.

The Use of Physioacoustic Chair Therapy in the Management of Postoperative Pain Control and Its Effect on Length of Hospital Stay. Sponsored by Bronson Methodist Hospital and Next Wave, Inc. Kalamazoo, Michigan 1990-1992 BMH 737.

Multicenter Controlled Study of Nifedipine. Sponsored by Pfizer Laboratories. Monroe, Louisiana 1980.

Multicenter Placebo Controlled Study of Iloprost in Cardiopulmonary Bypass. Sponsored by Berlex Laboratories, Inc. Kalamazoo, Michigan 1986-1987.

Extracorporeal Membrane Oxygenation: Use in Acute Cardiac and/or Pulmonary Failure. Kalamazoo, Michigan, 1987-1988.

Electrical Characteristics of Human Tissue in Normal and Disease States. (Laboratory Project).

Automated Potassium Replenishment in Postoperative Cardiac Patients.

Left Atrial Pressure as Related to Cardiac Output in Postoperative Aortic Valve Replacement.

Aorto-Innominate Venous Fistula Repair.

## PROFESSIONAL COMMITTEES

<b>American College of Chest Physicians Council on Critical Care</b>	1983 to present
<b>American Heart Association Council on Cardiovascular Surgery</b>	1983 to 1984
<b>International College of Surgeons Vice Regent</b>	1984 to 1991
<b>Cardiopulmonary Resuscitation Comm.</b>	
<b>Utilization Review Committee</b>	1984
<b>Cancer Protocol Committee</b>	1985
<b>American Heart Association Nominating Committee</b>	1987

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In re Application of: Charles F. Butler

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For: SIMULATED WAVE MASSAGE

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

RULE 132 DECLARATION

The undersigned in accordance with the following declaration says as follows:

1. Attached hereto is my Curriculum Vitae.
2. I am familiar with the work of Dr. Charles F. Butler, M.D. in the field of acoustical therapy and I have read his patent application identified by the serial number 10/039,303 which was filed in the U.S. Patent Office on January 2, 2002.
3. To the best of my knowledge and belief Dr. Butler is the first to provide a method of applying acoustical vibrations to the human body in which a single transducer can be used for producing by way of a signal an acoustically induced vibration in the body and thereafter varying the frequency of the signal by a continuous or scanning movement to move the location of the vibration from one body part to another body part.
4. I have been provided and have reviewed U.S. Patent 5,101,810, in which at least two loud speakers or transducers are utilized with one speaker receiving a low frequency signal to produce a vibratory effect in a particular part of the body. The other speaker

accommodates music. A particular signal frequency is used for a specific body part for a specific length of time. While the frequency used in patent 5,101,810 can be varied, it is done so in discreet increments. This patent teaches or suggests the usage of a specific frequency for a specific body part for a specific length of time.

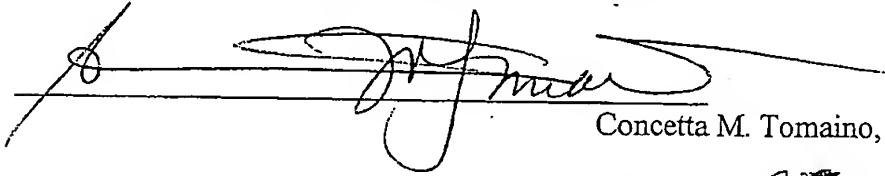
I have been provided a copy of U.S. Patent 5,113,852 and find that it is directed to what the inventor here calls is a common drawback problem in which subjecting a body part to a continuous vibration produces a numbing or muscle fatigue. The inventor here indicates in column 1, on line 57, that this problem of muscle fatigue exists whether utilizing a constant frequency or a varying frequency. Thus, it is readily apparent that the inventor of this patent, like other inventors and users in the field of acoustical therapy, did not realize that beneficial therapeutic results can exist by the use of varying frequencies. In this patent at least two transducers are needed. The vibratory effect is moved from one speaker to another by inducing a phase difference at the respective transducers. Even when the frequency is varied, such as illustrated in Figure 5, the movement of the vibration from one body part to another still requires multiple transducers to accommodate the phase difference in the signals.

In considering patents 5,101,810 and 5,113,852, neither patent suggests to me, as one having ordinary skill in the art that one can move the location of a vibration from one body part to another body part by using a minimum of one transducer and varying the frequency of the vibration causing signal by scanning. The inventor in patent 5,101,810 utilized discreet or separate signal frequencies without any continuous movement or scanning while the inventor in patent 5,113,852 utilized a phase off-set for the signal to

produce a wave-like vibration available only through multiple transducers.

7. In summary the invention of Dr. Charles F. Butler in actuating a wave generation device to cause a transducer to provide a signal producing vibration in the body and thereafter varying the frequency of the signal by scanning to move the location of the vibration from one body part to another with the minimum of one transducer is not obvious from the prior art as it is known to me.

I hereby declare that all statements made here are of my own knowledge are true and are all statements made on information and belief are believed to be true: and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 118 U.S.C. 1001.

A handwritten signature in dark ink, appearing to read 'Concetta M. Tomaino', is written over a horizontal line.

Concetta M. Tomaino, DA, MT-BC

Date: May 27, 2003

## CURRICULUM VITAE

CONCETTA M. TOMAINO, DA,MT-BC  
66 Aqueduct Road  
Garrison, New York 10524  
845-737-3182

## EDUCATION

5/98	New York University DA - Music Therapy
4/84	Columbia University Post graduate course in Neuropsychology
1979	New York University MA - Music Therapy
1976	SUNY at Stony Brook BA - Music Performance Minor - Psychology/Sciences

## CERTIFICATIONS

1993	ACMT - The American Association for Music Therapy
1984	BC - The Certification Board for Music Therapy. Certificate #226
1980	CMT - The American Association for Music Therapy

## ACADEMIC AFFILIATIONS

10/01 -Present	Berkley College of Music, Boston, MA:Fellow
1/95-Present	New York Geriatric Education Center <u>Title: Faculty</u>
9/01-Present	Brookdale Center For Aging: <u>Title:</u> <u>Adjunct Faculty</u>
9/79-Present	New York University <u>Title: Clinical Music Therapy</u> <u>Internship Supervisor/Guest lecturer</u>

9/83-Present	Molloy College <u>Title: Adjunct Music Therapy</u> <u>Internship Supervisor</u>
9/92-Present	New School for Social Research <u>Title: Clinical Music Therapy Fieldwork</u> <u>Instructor</u>
6/97-Present	Adler Institute <u>Title: Guest Lecturer</u>
7/87	The College of New Rochelle <u>Title: Adjunct Faculty/Independent</u> <u>Study Instructor</u>

# PROFESSIONAL EXPERIENCE

8/00-Present	Beth Abraham Health Services Vice-President for Music Therapy Director, Institute for Music and Neurologic Function
1/94-7/00	Beth Abraham Hospital <u>Title: Director of Music Therapy</u>
3/80-12/93	Beth Abraham Hospital <u>Title: Music Therapist</u> -Research development programs on impact of music on memory and other neurologic functioning.
11/86-Present	Marrs/Treetops Nursing Home <u>Title: Music Therapy Consultant</u>
1988-Present	Private Music Therapy Practice Specializing in use of music therapy neurological diseases, especially Parkinson's and Alzheimer's disease.
6/91-5/93	Kittay House <u>Title: Music Therapy Consultant</u>
1/89-12/90	New York University <u>Title: Assistant Research Scientist</u>

-Assisted in grant writing. Designed and implemented research studies related to the bio-mechanical, physiological, and psychological aspects of performance in music and dance.

5/78-3/80

Wartburg Home for the Aged  
Title: Music Therapist

7/78-3/80

Hebrew Home for the Aged  
Title: Music Specialist

1/77-8/77

YMHA Bergen County  
Title: Music Specialist

#### PROFESSIONAL AFFILIATIONS

1/03

Member Development Committee, American Music Therapy Association

1/98 - 2001

Chair, Job Reanalysis Committee, Certification Board for Music Therapists

1/98 - 1/99

Member, Futures Committee, American Music Therapy Association

9/97 - 2001

Editorial Review Board: Journal of Music Therapy

9/97 - 2001

New Media Review Editor: International Journal of Arts Medicine

3/97 - PRESENT

Super Panel member for GRAMMY in the Schools, National Academy of Recording Arts and Sciences

1/97 - 2001

Certification Board For Music Therapists

10/95- PRESENT

Advisory Board of the Center for Alternative Medicine Research in Rehabilitation at the Kessler Institute for Rehabilitation, Inc.

9/93-PRESENT

Research Advisory Committee of the Institute for Music and Neurologic Function



1/91-Present	<u>International Journal of Arts Medicine</u> International Advisory Board member
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	<u>American Association for Music Therapy</u>
9/92-8/93	Past-President
9/89-8/92	President
9/82-8/92	Member of the Executive Board
9/82-8/92	Member of the Board of Directors
9/88-8/89	President - Elect
9/83-8/88	Vice-President for Professional Standards
9/82-8/90	On-Site Observer for Alternate Route Certification
4/80-8/88	Member of the Certification Committee
9/82-8/83	Chairperson of the Certification Committee

	<u>Certification Board for Music Therapist</u>
11/92-6/94	Chair of the Job Re-analysis Committee
11/87-8/89	Member of the Continuing Education Committee.

	<u>National Coalition of Arts Therapy Associations</u>
9/88-8/93	Representative for AAMT
9/82-2000	New York Neuropsychology Group
9/79-Present	International Trumpet Guild
6/79-Present	American Federation of Musicians Locals 38 and 398
11/90-Present	National Association for Female Executives, Inc.
5/93-Present	PHI DELTA KAPPA

## PERFORMANCE EXPERIENCE

7/76-Present	Free-Lance trumpet performer
11/85-Present	Solo/Principal trumpet-Lehman College Community Concert Band
6/91- Present	Section trumpet - White Plains Pops
6/89- Present	Section trumpet - Westchester Band
5/85-5/90	Section trumpet- Philharmonic Symphony of Westchester
7/79-5/80	Section trumpet-American Concert Band

## SCHOLARSHIPS AND AWARDS

9/88-12/88	Doctoral Research Assistantship/Human Performance Analysis Laboratory-NYU
6/78-6/79	NYU Graduate Assistantship
9/78-6/79	N.E. Collins Scholarship
6/78	Kurtz Scholarship
9/72-6/76	Regents Scholarship

## LISTING

1991-Present	WORLDS WHO'S WHO OF WOMEN
--------------	---------------------------

## AWARDS

3/15/99	Touchstone Award - Women in Music
---------	-----------------------------------

10/23/92

Music Therapists for Peace - Award for advancing public awareness of music therapy and for contribution to a more peaceful and harmonious world through methods unique to music therapy.

#### GRANTS

2002

\$493,500

US Administration on Aging, HHS earmark grant PI

2000

\$50,000

Wallerstein Foundation 5 year clinical grant PI

1999

25,000

New York State Congressional Grant PI

1997

\$184,275

New York State Department of Health Co-PI

1995

\$10,000

REX Foundation PI

1995

\$6430

Haym Salomon Geriatric Foundation PI

1994

\$234,000

New York State Department of Health. PI

#### PUBLICATIONS

Tomaino, C. (2002) The Role of Music in the Rehabilitation of Persons with Neurologic Diseases. Music Therapy Today (online), August, available at <http://musictherapyworld.net>

Tomaino, C. (2002, Winter). How Music Can Reach the Silenced Brain. Cerebrum. Vol 4:1, pp 22 - 33.

Tomaino, C. (2000)

Working with Images and Recollection with Elderly Patients. In, D. Aldridge (Ed.) Music Therapy in Dementia. London: Jessica Kingsley.

2000

Using Music Therapy with Persons with Parkinson's Disease. In Cote,

- Sprinzeles, Elliot & Kutscher (Ed.)  
Parkinson's Disease and Quality  
Of Life. New York: Haworth Press.
- 1999 Tomaino, C., Scheiby, B., Asmussen,  
S., Ramsey, D., Shah, V., & Goldstein, A.  
(1999)  
The effects of a music therapy  
intervention on the levels of  
depression, anxiety/agitation, and  
quality of life experienced by  
individuals diagnosed with  
Early and middle stage dementias: A  
controlled study. Final Report to the  
1996 Dementia Grants Projects, Office of  
Continuing Care, New York State  
Department of Health.
- 1999 Active Music Therapy approaches for  
Neurologically Impaired Patients. In  
Maranto (Ed.) Music Therapy and  
Medicine: Theoretical and Clinical  
Applications. 115-122. American Music  
Therapy Association, Inc.
- 1998 Tomaino (Ed.) Clinical Applications Of  
Music in Neurologic Rehabilitation. St.  
Louis.  
MMB Music, Inc.
- 1998 Tomaino, C. M. (1998). Music and Memory.  
In Tomaino (Ed.) Clinical Applications  
Of Music in Neurologic Rehabilitation.  
St. Louis. MMB Music, Inc.
- 1998 Music on their minds: A Qualitative study of the  
effects of using familiar music to stimulate  
preserved memory function in persons with  
dementia. Unpublished Doctoral Dissertation.  
New York University: UMI.
- 1996 The Influence of Music on Memory in  
Patients with Dementia. (Final research  
findings NYDOH grant. unpublished).
- 1996 Music Therapy for the Elderly In Long  
Term Skilled Nursing Care and Short  
Term Rehabilitation" in Music Therapy  
International Report Volume 10, pp 69-  
71.

- 1993 Music and music therapy for the frail non-institutionalized elderly. Journal of Long Term Home Health Care: The PRIDE Institute Journal, 13, (2) 24-27.
- 1993 Music and the limbic system. In F.J. Bejjani (Ed.), Current Research in Arts Medicine. Illinois: A Cappella Books.
- 1991 "Music and Neurological Disorder" with Oliver W. Sacks, M.D. International Journal of Arts Medicine: Fall 1991 1:1 pp7-9 MMB Music.
- 1989 "Comparison of Three Piano Techniques as an Implementation of a Proposed Experimental Design" with F.J. Bejjani, M.D., Ph.D. et al Medical Problems of Performing Artists.

#### CHAPTERS

- 1991 Xu, N.; Bejjani, F.J.; Titiloye, V.M.; Lei, L.; Tomaino, C.M.; and Lockett, R. "Conversion of forearm surface EMG into Force: Experimental design and pilot study." In: Anderson, P.A., Hobart, D.J., and Danoff, J.V. (eds), Electromyographical kinesiology. Amsterdam, The Netherlands: Elsevier Science Publishers B.V. 1991.
- 1991 Titiloye, V.M.; Bejjani, F.J.; Xu, N.; and Tomaino, C.M. "Upper extremity force requirements in violin vibrato: A dynamic electromyographic study." In: Anderson, P.A., Hobart, D. J., and Danoff, J.V. (eds), Electromyographical Kinesiology. Amsterdam, the Netherlands: Elsevier Science Publishers B.V. 1991.
- 1989 Bejjani, F.J.; Ferrara, Lu; Xu, N. Tomaino, C.M.; Pavlidis, L.; Wu, J.; Dommerholt, J. "Synchronized electromyographic, video and sound analysis of piano performance with comparison of three methods." In:

J.J.Presperin (ed), Technology of the Next Decade. Proceedings of the 12th Annual Resna conferences, Washington, D.C.: Resnapress, 1989, pp 258-259.

## ABSTRACTS

2001

The Role of Music in the Rehabilitation of persons with Nueurologic Diseases: Gaining Access to "Lost Memory" and Preserved Function Through Music Therapy. P. 88 In Music Therapy In Europe: Napoli 2001 The 5<sup>th</sup> European Music Therapy Congress.

1997

" Music and Memory: Implications for Persons with Dementia" p. 436. In Aging Beyond 2000: One World One Future. Book of Abstracts, World Congress of Gerontology, Adelaide Australia.

1992

"Medical Problems of the Elderly: Implications for Music Therapy Assessment and Intervention" Proceedings AAMT 21st Anniversary Conference.

1989

Lockett,R.;Bejjani, F.J.;Xu, N. Tomaino,C.M.; and Ruskin,A. "Three-dimensional analysis of cervical motion. Archives of Physical Medicine and Rehabilitation, 70(11), A-95, 1989.

1989

Bejjani, F.J.:and Tomaino,C.M. "Comparison of three piano methods using state-of-the-art motion analysis technology. Proceedings of the International Society for Music in Medicine. Palm Springs,CA, 1989.

1989

Bejjani,F.J.;Tomaino, C.M., and Ferrara, L.A."Comparative Acoustic and EMG analysis of Violin Vibrato. Proceedings of the 7th Conference on Medical Problems of Musicians and Dances, 1989.

1990

Xu, N.;Bejjani,F.J.;Titiloye, L.;Lei, L.; and Tomaino, C.M. "Conversion of forearm surface EMG into force - Experimental design and pilot study" Proceedings of the International

Society of Electrophysiological  
Kinesiology, 1990.

1990

Titoye, V.M.;Bejjani, F.J.;Xu,N.;  
Tomaino, C.M.;Lei, L. "Upper  
extremity force requirements in violin  
vibrato.A dynamic electromyographic  
study." Proceedings of the International  
Society of Electrophysiological  
Kinesiology, 1990.

**CONFERENCE PRESENTATIONS:**

Invited speaker to over 10 international conferences annually.  
subjects include topics related to  
"Music and Neurologic Function" Music  
Therapy and Integrative Medicine" Music  
Therapy and Rehabilitation", "Music and  
Memory," "Music Therapy in Dementia  
Care"

**MEDIA COVERAGE:**

Work has been featured in many international media venues including "48  
Hours," "60 Minutes" "CBS Sunday Morning"  
"The Doctor is In." National Public Radio and  
cited in several popular books including: Don  
Campbell,The Mozart Effect, Olivers Sacks,  
Anthropologist on Mars, Mitchel Gaynor, Sounds  
of Healing